refused to meet with Applicant's attorney, even by teleconference, subsequent to the Final Office Action.

This Request for Continued Examination has been filed to respond to the Examiner's rejection. The first portion will address the Examiner's new objection, in his second and Final Office Action, that the amendment introduced "new matter" into the specification. The second portion will address the objection that the amendment introduced "new matter" into the claims. The third portion will address the Examiner's assertion that the applicant's invention was anticipated by Bidgoli, Handbook of Management Information Systems: A Managerial Perspective, November, 1988 [hereafter 'Bidgoli']. The last portion will address the remaining objections to the claims, summarily recited by Examiner without justification or explication. Because the Examiner's Response did not consider the new material, particularly that which was responsive to the Examiner's concerns in the First Office Action, and gave inadequate support for his determinations, this application was not in the condition preferred for appeal to the Board.

Since there has been neither a request, nor grounds given, for altering some of the claims which were amended in response to the First Office Action, or claims which were not otherwise objected to in the Second Office Action, and since the Examiner's objections are not deemed well-founded, all of the claims have been cancelled and repeated in their entirety solely to comply with the regulations concerning Continued Examinations; their cancellation should not be read as any acknowledgement of unpatentability unless specifically so stated.

I. Applicant's Amended Specification Contained New Material But Not New Matter

The most disappointing element of Examiner's rejection was the abrupt, conclusory, but above all mistaken assertion that Applicant's amendments introduced "new matter" into the application. Applicant readily concedes that the specification and claims were amended, and that new text was incorporated therein. However, both Applicant and the

prosecuting attorney were keenly aware that no amendment could contain "new matter", and so took pains to ensure that the new text did not violate this prohibition. The new text constitute new material, not new matter, a crucial distinction overlooked by the Examiner and his supervisor.

The response in the First Office Action suggested that the Examiner had incorrectly comprehended the language, examples, drawings, and text originally submitted. Particularly, the Examiner appeared to be unfamiliar with the declarative paradigm and declarative method. At first, Applicant and the prosecuting attorney considered filing solely in the responsive argument new text which would clarify, make more definite, and more clearly explain the conformance between the specification, drawings, and claims. After considerable discussion, however, it was decided that the best means to ensure a better, fuller, more accurate, and more comprehensible teaching within the patent was to amend the specification and claims directly, so that any resulting patent would be more readily comprehended and offer more, and more improved, 'teaching', in accordance with the goals of the patent process.

The Examiner's Final Response makes it clear, however, that the Examiner has failed to recognize any distinction between "new material" (which is permissible), and "new matter" (which is not). As the Examiner also and subsequently refused a further interview, during which this issue could be less formally addressed and resolved, these points must be and are discussed in detail below.

The Examiner's mistakes are three-fold: (A) the Examiner failed to consider how the new material was used in the amended specification; (B) the Examiner failed to analyze the new material in its context; and (C) the Examiner failed to cross-correlate the new material with the already-filed drawings and claims. Each of these will be further discussed below. All page and line references in this section, if not otherwise indicated, will be to the marked-up version of the amended specification filed July 26, 2002.

A. The Examiner Failed to Consider How the New Material Was Used

The Examiner objected, as being "new matter", to the new material contained in text added on p. 4, lines 3-8 and 22-26, and on p. 6, line 1 through p. 7, line 25. In doing so, Examiner committed a fundamental error in describing such as "new matter". This portion of the specification, including the new text therein, describes what Applicant asserts as prior art. And prior art simply cannot be new matter! [Chisum On Patents (hereinafter 'Chisum'), Vol. 11, Chapter 11, Section 11.04[2][a], fn. 7, esp. Northern Telecom Inc. v. Datapoint Corp., 9 USPQ 2d 1577, 1594 (N.D. Tex. 1988) "The amendments did only what they were represented to do, explain the state of the prior art."]

To constitute "new matter", a disclosure must be of a patentable new invention or process. Triax Co. v. Hartman Metal Fabricators, Inc., 479 F.2d 951, 956-57, 178 USPQ 142, 146 (2d. Cir. 1973) cert. denied, 414 US 1113 (1973):

> "...an amendment to an application is not "new matter" within the Patent Act or the Rules of the Patent Office unless it discloses "an invention, process, or apparatus not thretofore described. [Citations omitted] If the later-submitted material simply clarifies or completes the prior disclosure, it cannot be treated as "new matter". [Citations omitted]

Even presuming that all of this new material was completely new (when in fact it was all just a clarification of the previously-submitted text), anything that the Applicant describes as prior art, he necessarily concedes cannot be "new matter". By stating that something is prior art, the Applicant estops himself from basing any claim to it. What is disclosed as prior art may be new to the Examiner, but the Applicant's disclosure tells both the Examiner, and the world, that to Applicant, this is pre-existing knowledge over which his invention must be both novel and non-obvious. What this particular new material states cannot be either a 'subsequent improvement' or a 'modification' to the applied-for invention, for it is part of the foundation from which the Applicant's invention must differ. Applicant never intended that it be new matter, and Examiner's pronunciation, however earnest, cannot make it "new matter".

This error is repeated, when the Examiner objects to the new material found on p. 19, lines 5-10, despite the opening clause of that paragraph stating: "The prior art in business

management...." Read with any care, this new material is no more than an in-context clarification of what the prior art is, from which Applicant's invention differs.

B. The Examiner Failed to Analyze the New Material in Its Context

Any amendment that renders explicit what had been implicit is not "new matter". [Chisum, Vol. 11, Chap. 11, Section 11.04[2][a], fn. 6; *In re* Wright, 343 F.2d 761, 767, 145 USPQ 182, 188 (CCPA 1965):

> "the amendments to the specification merely render explicit what had been implicitly disclosed originally, and, while new language certainly has been added, we are not prone to view all new 'language' ipso facto as 'new matter.' "

What is forbidden is a "modification" or "subsequent improvement", not further explication, description, or detail which renders an application better suited to the purpose of teaching a new advance. Each of the Examiner's objections to the new material must be reviewed, and the new material analyzed, with these distinctions in mind.

The Examiner objected to the new material on page 17, lines 15-21. This new material begins with a subordinate clause being added to the existing sentence, a clause which clarifies the word "implemented" from the previously-submitted specification. In standard English usage, a subordinate clause serves: "to specify or qualify words that have greater importance". [The Random House Handbook, Random House, 1974, p. 88.] More specifically, the new material begins with the word "through", adhering to the use of the dictionary definition "by way of" [American Heritage Dictionary of the English Language (hereinafter "Am. Her.") Houghton-Mifflin Corp., 1969], clarifying the means already stated in the claims. Material which clarifies, or makes more definite, existing text is not "new matter". [Chisum on Patents, Vol. 11, Chap. 11, Section 11.04, and the cases cited in footnote 5, esp. Triax Co. v. Hartman Metal Fabricators, Inc., *supra*. The Examiner offered neither explanation nor argument to back his conclusory assertion, or to show this new material committed any substantial deviation from the standard usage of

inserting a secondary, clarifying, prepositional clause within a pre-existing sentence's structure, to make the main clause clearer and more definite.

The Examiner next objected to new material on p. 18, line 16 through p. 20, line 14. The preceding paragraph specifically discusses interactions between elements that are or involved "anticipatory", "real world conditions", and "projected anticipations". The preceeding paragraphs had included references to "continuous adaptation and refinement to match reality as it is rather than correcting for mistaken plans as they were implemented", "dynamic processes", and instantiation "as a model of business organization, embodied in a computer program and applied to real-world problems of production, distribution, retailing, or service provision".

The references and language already present in the original specification created the potential for some confusion as to temporality involved in the Applicant's method, that is, from what point or points in time 'past', 'present', and 'future' are to be evaluated. (For example, tomorrow's yesterday is always today, but each day's 'today' is a different date.) In this context, the use and scope of the word 'anticipatory' is a heightened concern; for the Examiner or reader of the application may not fully comprehend the meaning; anticipatory from what point in time?

And so the first paragraph of the new material clarifies[1] what "anticipatory", "real world conditions", and "projected anticipations" can mean. The first, subject clause of the new material refers to "This feature of anticipatory effect"; the second clause makes clearer a potential differentiation through use of "parallel implementations", and the remainder of the object clauses refer to the temporal viewpoint of the relative[2] future.

The second paragraph of the new material then clarifies the temporal viewpoint from which the instantiation of any changes within the Applicant's potentially self-modifying

[1] Or at least, was only intended to clarify. Applicant's attorney concedes that attaining mastery of subjunctive, alternative, and other temporal modalities of the English language is quite difficult; not everyone can be a James Joyce.
[2] As opposed to absolute, or fixed-in-time.

method is viewed, clarifying that this viewpoint is that of the then-current present, as their verbal forms used in this clause ("changing the constraints and using induction") are both present-tense gerunds that jointly are the object of the present-tense verb "focuses".

The third paragraph, as pointed out above, describes the prior art which is not and cannot be part of Applicant's invention, and is neither claimed nor claimable to be such. This was inserted to strengthen the context that allowed the differentiation in the fourth paragraph, a paragraph that completes the prior disclosure by setting forth in far more detail how Applicant's method is implemented. (Concerning this paragraph, see subsection (C) below.)

The fourth paragraph is fairly complex, yet careful reading establishes that it does not constitute nor incorporate "new matter". Nothing therein is a forbidden 'modification' or 'subsequent improvement' of Applicant's original submission. All that is there, when analyzed, is a clarification or a more definite statement of what was already present or inherent in the pre-existing text, drawings, and claims.

The penultimate sentence of the fourth paragraph of the new material principally describes an advantage of the Applicant's invention (though the text "self-referential mensuration", ties this portion of the specification both to Figure 1, Element 11, and to Claim 5). So, too, does the last sentence of the fourth paragraph of the new material (though it ties more to Figures 4 and 5).

Finally, the first portion of the fifth paragraph of objected-to new material states an advantage to the Applicant's invention, an advantage which is inherent in the concept of "dynamic process", and which existed in multiple places in both the already-submitted specification and claims; a concept already addressed in the First Office Action and not otherwise specifically responded to by Examiner in this Office Action.

The fifth paragraph's initial sentence also explicates Figures 4 and 5 (see below). The second sentence is a statement of the prior art, in context to allow differentiation. The

third sentence, which begins with "This is because the emergent business process…is found….", is an explication of what is inherent in the language found in the first claim in the original application. The new material's passive verb form "is found", arises from that claim's steps of "declaring", "testing" "and actuating", the steps from which the emergent business process is found. That claim's language includes "an objective", "a set of measurable goals and constraints", "a set of rules", and "a condition governing that rule's activation". These constructions use the singular articles "an" and "a" to mean "one or more", in accordance with standard PTO claims-drafting terminology. From these constructions inherently arises "a set of all possible transaction flows", which is referenced in the new material. And, because the process is not necessarily predetermined, but arises out of the combination, it is "an emergent transitive flow", as the new material clarifies. This new material also helps to explain both Figures 1 and 2.

The next sentence of the new material, "Thus the emergent business process…", states advantages over and differentiation from the prior art, and constitutes further clarification, rather than creating or citing any modification or subsequent improvement.

Later, the Examiner objected to text from p. 29, line 28, through p. 29, line 5. The existing, pre-amendment text described self-modification (p. 29, lines 25-27; see also the original Claim 5). Most people think of processes, or methods, as unchanging; though a method may change something else, it does not change itself. Applicant's invention, however, is not so limited, and never was so, not even in its original submission.

As part of the clarification effort, this objected-to paragraph of new material, viewed in the context of self-modification (a context set by the previously existing paragraph), was intended to make clearer that the method, model, and processes disclosed by Applicant were all dynamic processes which were responsive to real-world changes. As "dynamic process" is language which can be found throughout the previously submitted specification and in the preamble to the first claim, the breadth of its inherency extends throughout the application.

In the original application, the first claim's preamble is "A method for managing a dynamic process...." There is an inherent equivalency between "method" and "process"; each, for example, is listed as a synonym to the other in Roget's Thesaurus (G.P. Putnam & Sons, 1969). The existing language had made the specific point that the Applicant's method is self-modifying. The amending new material objected to by the Examiner clarifies that the Applicant's method can be applied to itself during operation, without human intervention or the need for static set-points.

Not surprisingly, then, the Examiner also objected to the new material from p. 31, line 22, to p. 32, line 10, which again is an intended clarification of what is meant by concept expressed in the language "dynamically manages a process". The prosecuting attorney will concede that the first sentence of this amendment was awkward. The prosecuting attorney proposes a clearer amendment stating: "Sixth, rules, rule sets, constraints, elements, objectives, goals, or other parts of the model may be designed and incorporated, even though they anticipate conditions over which there is little or no control, since the method dynamically manages a process, particularly a business process, and presumes a changing (i.e. non-deterministic) world."

This new material, and the proposed clarifying amendment, was intended, and should serve, to clarify how an inductive approach can be implemented, when the existing model incorporates both anticipatory and projective elements, even potentially contradictory ones ("prices go up" and "prices go down").

The second and further sentences of this portion of objected-to new material continue to both clarify and make more definite how the method is implemented, while the final sentence again addresses and differentiates the prior art.

C. The Examiner Failed to Cross-Correlate the New Text With the Drawings and Claims Previously Submitted

The Examiner objected to the new material found on page 13, lines 19-22. This new material ties the specification at that point more closely to the drawings, specifically Figures 4 and 5, which already had exemplified a dynamic modification (through successive static, albeit somewhat abstract, diagrams of the potential logical flowpaths within the self-modifying method). That these two drawings were tied together was stated in the new material contained in the 'Brief Description of the Drawings' which had been requested by the Examiner.

As pointed out above, the Examiner objected to the new material on page 17, lines 15-21; yet failed to cross-correlate this new material with the existing drawings. The amended sentence had already said that Applicant's invention "not only allows but supports continuous adaptation and refinement", which is supported by the Element 6 of Figure 1, 'EVOLVE INTO'; the new material consisting of the secondary, subordinate, and clarifying prepositional clauses of "through an emergent process" (which itself is inherent in Figure 1 by the feedback cycle indicated in Elements 3,5,7,9,11, and 13 and their interconnectivity) and "through an inductive mechanism" (inherent in Figure 3's reference to an "Inference Engine", which those skilled in the field would understand as possibly incorporating any combination of inductive or deductive reasoning).

As pointed out above, the Examiner objected to the new material on p. 18, line 16 through p. 20, line 14. The fourth paragraph in the new material makes more definite, clarifies, explains, and unifies most of the drawings. The initial verb and object clause, "incorporates the explicit sets of condition rules" link to Figure 1, Element 5; Figure 2, Element 16; and Figure 3, "Rules Database". The prepositional clause "to establish multiple valances of potentially contradictory logical axioms", and the immediately following verbal phrase beginning with "incorporates a mechanism for resolving discovered or experienced logical contradictions...." link to Figures 4 and 5. The parenthetical sentence immediately following is simply an assertion of differentiation from prior art.

As pointed out above, the Examiner had objected to new material from p. 29, line 28, through p.30, line 5. The pre-existing text explicated self-modification (p. 29, lines 25-27).

This new material serves both as part of the clarification of the meaning of the word "dynamic" found in the specification and claim, a word which Examiner's First Office Action had seemed to indicate was less than perfectly understood as applying both to the method as well as to what the method was capable of handling, and to more explicitly connect the specification to the already-existing Figures 4 and 5.

As all of the objected-to new material serve to clarify and make more definite that which had already been present, or at least inherent, in the original specification, claims, and drawings, and as none of these amendments to the specification described a modification or patentable new invention, the Examiner's rejection thereof on the grounds that such constituted "new matter" cannot be sustained, and the rejection must fail.

II. Applicant's Amended Claims Contained New Material But Not New Matter

The Examiner did not object to particular alterations in the claims where the particular words of the text were moved around (for example, the alteration in Claim 1 from "a method for managing a dynamic process" to "a method for dynamically managing a process"), nor to those changes deleting and alternately stating text (for example, removing the subordinate clause "and actuating a rule when its condition is met" to a non-subordinate clause "actuating a rule when its condition is met" in Claim 1), thereby entitling Applicant to presume that those changes not otherwise specifically objected to have been accepted as not constituting new matter.

But the Examiner objected to Claims 1-8 and 13-15 as containing "new matter", when he encountered words and phrases which he had not seen before, in what appears to be a mechanical, rote response that similarly failed to distinguish between"new material" and "new matter".

The new material in Claims 1-8 that the Examiner objected to as being "new matter", is the incorporation into the preamble of Claim 1 of this new text: "...through an emergent and inductive approach that anticipates possible conditions and desired actions....". The fact that that text is new to that preamble does not make it "new matter". When the original specification, claims, and text are analyzed, the Examiner's rejection (or as stated in the Office Action, his "consideration") is unjustified.

The first prepositional clause of the new material, "through an emergent and inductive approach", is an expression of that which was inherent in the original application, drawings, and claims, as the following analysis shows.

The meaning of the adjective "emergent" is defined (Am. Her.) as "1. Coming into existence, view, or attention; issuing forth. 2. Demanding prompt action." Both meanings (1) and (2) existed in the pre-amendment text, drawings, and claims.

First, in the original text, in Summary of the Invention, the last sentence of the first paragraph describes a method incorporating "feedback that continuously updates a business's model to the real world" and "closed-loop decision making, in which objectively-stated expectation leads to effort leads to result....". This is graphically represented in Figure 1, which includes Element 4 ("Infer"), Element 6 ("Evolve Into"), and the loop from Elements 3 through 14; and again in the combination of Figures 6 and 7 (two static shots of the dynamic process of self-modification). In this feedback-driven updating process, and in the graphical representation of a change shown by comparing Figure 4 to Figure 5 , in which an existing contradiction[3] seen in Figure 4 ("X = Not X") leads to creation of a new differentiation seen in Figure 5 which has a new sub-element (" X' ", or X-prime) and a new rule stating the differentiation ("X' <> Not X", or "X-prime is Not Equal to Not X"). Through this comparison of the two Figures the specification inherently disclosed the first meaning of the word "emergent", that is stated as "coming into existence".

[3] Using symbology and language common to both logic and mathematics.

Second, the original text in Claim 1 contains both "testing each rule..." and "...actuating a rule when its condition is met...". This language expressed those connotative meanings for the word "emergent" found in the definition as 'coming into existence' or 'issuing forth'. This concept of 'emergence' appears elsewhere in the original text which stated both "In the preferred embodiment of this invention, the instantiation of the rule sets and data describing both internal operations and goals, and external conditions and reactions, is continuously updated to match the reality as experienced rather than matching preconceived (planned) expectations."(p. 28. line 26 – p. 29, line 1) and "In the preferred embodiment, modification of a goal is done by creating a condition that when detected by the same level as a goal causes that level to modify its own rules (self-modifying), rather than requiring intervention of a higher level of the hierarchy." (P. 29, lines 25-27.) Also inherent is the second meaning of 'emergent', 'demanding prompt action', as can be seen in the text already present stating: "in which objectively-stated expectation leads to effort leads to result leads to feedback leads to improved objectively-stated expectation", (p. 13, lines 13-14); and in Figure 1's feedback cycle.

Therefore, 'emergent' is a descriptive expression of what had been inherent already in the specification, drawings, and claims.

The meaning of the adjective "inductive" is defined (Am. Her.) as "1. Of or utilizing induction: *inductive method.*" (Italics in original.) An additional definition (*ibid*) of "inductive" is: "3. a. *Logic.* A principle of reasoning to a conclusion about all the members of a class from examination of only a few members of the class; broadly, reasoning from the particular to the general." (Italics in original.) Both of these meanings were already present, too, in the application before the objected-to amendment.

Inductive reasoning is an inherent feature of the "Inference Engine" referenced in Figure 3, and is inherently present in the paragraph in the Summary: "By stating the goals of a business in declarative form, wherein the goals are specifically stated as measurable objectives, and the means for attaining the goals in similar declarative form as rules,

wherein the internal and external real-world conditions are used as preconditions that, when met, allow the rules to actuate, and then repeatedly circulating through the rule sets (with each rule actuating only when it is logically, that is, 'true' for it to do so), a business can focus on attaining its goals rather than on how it is acting." (P. 13, lines 15-21.)

This inherency becomes obvious when the foregoing are combined with original text concerning the "declarative method" (e.g. Claim 2). Particularly since the title to the application begins with just that phrase: "A Declarative Method for...." This is as strong a signal as a patent application can make as to a background, field, and context which most particularly should be considered when evaluating the meanings of the words used in the application. Applicant's title signals that his method uses the declarative paradigm, and declarative knowledge.

"Declarative knowledge" is described thusly: "Declarative knowledge consists of facts and propositions. Work has to be done on this knowledge to infer a procedure which will achieve the task goal." (p. 13/11, 2d column, 2d full sentence; Software Engineer's Reference Book, John McDermid, ed., CRC Press, 1991.) What sort of work? This can be found in the description of the declarative paradigm and declarative programming (also known as "functional programming" found in Chap. 2.4.1, p. 2/8 – 2/10, *ibid*), which makes it clear that inductive reasoning is fundamental to the declarative method[4].

Therefore, "Inductive" is also inherent in the original application's specification, drawings, and claims.

Since the descriptive adjectives in the first clause of the objected-to new material of Claim 1 express that which was already entirely inherent within the original application's specification, drawings, and claims, the entirety of that first clause, which serves to

[4] Admittedly, the legal field tends to focus on deductive reasoning and definition and ignore this alternative; see the definitions of "induct" and "inference" in Black's Law Dictionary, 4th Ed. (1968). But those who are most likely to be reading the patent in order to implement or design around it are far more likely to have computer expertise, where the title and drawings' effect will be as described above.

clarify and make more explicit only that which was pre-existing in the pre-amendment specification and claims, does not constitute "new matter".

The second clause of the new material in Claim 1 to which Examiner objected as "new matter" is likewise nothing of the sort. This clause, "...that anticipates possible conditions and desired actions..." is an adjectival modification of the word "approach"[5]. The original text in the specification incorporated both the concepts and specific phrasing from which this clause is inherently derivable, e.g.: "It is anticipatory rather than projective, and thus minimizes the gaps between expectations (the model of the anticipated world) and reality..."; "In the preferred embodiment, any rule set will be incrementally augmented as more information about the real-world conditions and possible future states becomes known..."; and, "As soon as any trend or dynamic can be observed and reduced to a declarative statement (e.g. 'sales of low-end shirts, defined as costing less than $15, are down 20% over last year in the EEC') it becomes part of the rule set and can be used to govern future behavior, e.g.: 'If anticipated sales are down below $Y0,000 in low-end products discontinue production contracts with high-cost, defined as > $2.50 per shirt, mills located where shipping costs exceed 10% of the production cost.'."

When the objected-to new material in Claim 1's preamble is analyzed in the context of the original specification, drawings, and claims, therefore, the Examiner's objection is unsustainable. The objected-to language was inherent in the original application; only the text is new.

Next, the Examiner objected to new material in Claim 13, that text being: "A method for inducing a business process from a set of defined conditions...." As shown above, this combination of "inducing", and "from a set of defined conditions", is inherent in the text and concept expressed in the title and throughout the original application, of the "Declarative Method". Does the inclusion of the noun construct, "a business process",

[5] One of the definitions for "Approach" is: "The method used in dealing with or accomplishing something" (Am. Her.); hence, this word is itself inherent in the original text.

remove this material from that which was already inherent in the original application's text? No.

Why not? First, the first paragraph of the Summary discusses "process" and "business processes"[6]. Second, evident in Figure 1 is Element 7, "Business Processes". Third, the Detailed Description contained the following text: "Fourth, the business's operation is made increasingly automatic, that is, responsive to external conditions rather than internal expectations, as the rule-satisfaction is made responsive to conditions as they exist in the real world and are applied to the rule-set(s). Actual implementation of business decisions and activities is governed by the satisfaction of the initial conditions for any particular rule or set of rules, which in turn initiates the operational process that produces measurable results." The language was already in the original specification; it was not just inherently, but explicitly, present.

None of the new material in the claims therefore constitutes "new matter"; all was inherent in, or already in, the original application; and the text clarifies and makes more certain that which had been present already.

Finally, the Examiner objected to the entirety of Claims 14 and 15 as being "new matter" and constituting "limitations...not described in the original specification". These objections, too, cannot stand under analysis. For not only is the new material of these claims not "new matter"; but also these claims are neither "modifications" to the original invention, nor "subsequent improvements"; they are just more definite descriptions of what had already been disclosed and claimed.

Claim 14 seeks protection for a combination of "dynamic", "self-referential representation", and "induced business process". The specification had already disclosed each of the three elements expressed in this claim. "Dynamic" appears in Claim 1 and throughout the specification. "[S]elf-referential representation" is inherent in the cited

[6] Although the particular article "a" is in common English used solely as a singular article, in patent claims it indicates that both the singular and plural states are claimed, having a meaning identical to "one or more"; it is thus both a singular and plural article. (A singular peculiarity of Patent Claim English.)

capability of Applicant's method to create or modify its own Rules, as seen in the Definition of "Action" (p. 22, line 10 ff.), as is stated in a more detailed fashion in "...the business' objectives are explicitly stated as a set of measurable goals and constraints..." (p. 23, line 20 ff.); and again in "Second, the means for meeting the business' objectives are stated as a set of rules. Each rule contains both a precondition and a response (also known as a condition and action)." (p. 25, lines 1-3). And "induced business process" is language already shown to be inherent as, it is just the combination of the concepts of induction and business process, *supra*.

The broader, lower-numbered claims covered these elements inherently when interpreted in light of the specification; but no claim had made explicit that those aspects were to be protected. Claim 14 is thus not "new matter", and should be accepted, for an applicant is entitled to amend claims during prosecution "to obtain protection commensurate with his actual contribution to the art" (*In Re* Yamamoto, 740 F.2d 1569, 1572; 222 USPQ 394 (Fed. Cir. 1984).

Claim 15 seeks protection for "including at least one anticipatory defined condition, constraint, rule, or element, thereby creating a model of the world which is differentiated from the currently known state....". As shown above, the original text had disclosed the "anticipatory" nature of the Applicant's method, and this was inherent in the broader claims, but to make the protection sought more definite, this claim was added.

As all of the objected-to new material in the Claims serves to clarify and make more definite that which had already been present, or at least inherent, in the original specification, claims, and drawings, and as none of these amendments to the claims described a modification or patentable new invention not already disclosed, the Examiner's rejection thereof on the grounds that such constituted "new matter" cannot be sustained, and the rejection must fail.

Applicant hopes that the foregoing explanations, which necessarily had to address the specific details of the pre-existing text, the new material, grammatical usages, and

distinctions between legally allowable "new material" and "new matter", will persuade Examiner to remove that conclusory objection. In the event that it does not, this portion of the response will prepare this issue for appeal by making the grounding in facts and law of Applicant's position distinct, specific, and evident.

III. Bidgoli Fails To Anticipate Applicant's Invention

The Examiner asserted as the second principle grounds for his rejections in the second, Final Office Action that Applicant's invention was anticipated by Bidgoli.

Anticipation requires that each of the following be true: (1) all the elements and limitations of an invention, as stated in a patent claim; (2) are identically set forth; (3) in a single prior art reference. See, generally, Chisum, Chap. 3.02[1][b], p. 3-12 ff.; and respectively the cases cited in footnotes 10, 11, and 12, e.g. *In Re* Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994), "A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference."; American Permahedge, Inc. v. Barcana, Inc. 857 F. Supp. 308, 318, 32 USPQ2d 1801, 1807-08 (SDNY 1995), "Identity requires not only that every element of the claimed invention appear in a single prior art reference, but that they appear in the same order as in the claims."; and, Rockwell International Corp. v. United States, 147 F.3d 1358, 1363, 47 USPQ2d 1027, 1031 (Fed. Cir. 1998) "Anticipation under 35 U.S.C. Section 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention."

While the exact same words need not be used, the anticipation standard requires an identity between the anticipating art and the claimed invention. This identity must be clear and absolute. *Ibid*, Chap. 3.04[1][b][iv][B], p. 3-97, and the cases cited in footnote 30, e.g. Ralston Purina Co. v. Far-Mar-Co., Inc., 586 F. Supp. 1176, 222 USPQ 863 (D. Kan. 1984), *aff'd in part & rev'd in part*, 772 F.2d 1570, 227 USPQ 177 (Fed. Cir. 1985), "a document that is so obscure in its terminology that conflicting theories can be deduced

therefrom is too indefinite to be utilized as an anticipation". This identity cannot be merely "substantial". *Ibid*, p. 3-16, cases cited to footnote 13, especially G Industries, Inc. v. Guardian Industries Corp., 75 F.3d 1558, 1566, 37 USPQ2d 1618, 1624: "To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter.".

When processes are involved, the two processes must be identical. As Galverbel Societe Anonyme v. Northlake Marketing & Supply Inc. 33 USPQ2d 1496 stated: "Anticipation requires identity of the claimed process and a process of the prior art; the claimed process, including each and every step thereof, must have been described or embodied, either expressly or inherently, in a single reference."

Furthermore, the burden is on the Examiner to identify not just the prior art, but "wherein each and every facet of the claimed invention is disclosed in the applied reference" (*Ex parte* Levy, 17 USPQ2d 1461, 1462.) For the reasons shown below, the Examiner's conclusory objection is unsupportable; the text in Bidgoli does not support the burden of his reference.

An inventor who discloses a simpler solution (one with fewer steps), a more functional solution (one capable of handling more classes of problems), or an alternative method (one which operates through non-equivalent processes), also is not anticipated by the earlier work against which his invention is compared. For each of these reasons, Bidgoli fails to anticipate Applicant's invention, as will be shown below.

Applicant submits that the Examiner failed to recognize that, while there is a subtly deceiving similarity between a result potentially attainable from the method in Bidgoli to a result also potentially attainable from the method claimed by Applicant's, there is a fundamental and deep difference in the methods themselves. This similarity in a potential result does not constitute anticipation, when a full and careful comparison of the methods themselves is made.

Finally, prior art cannot anticipate an invention when the prior art limits itself by claiming to be only a theoretical idea, for an idea, however creative, if not implementable lacks the prerequisite utility which underlies all patents. This requirement of 'enablement' for an anticipating work is identical to that required of a patent applicant, and must be of sufficient quality that "the description must enable such a person not only to comprehend the invention but also to make it." *Ibid*, Chap. 3.04[1][a], p. 3-89 ff..

A prior art reference that specifically and particularly teaches against the method and approach used by an subsequent invention does not anticipate, for it denies the utility and feasibility of the solution embodied in the later invention. For each of these reasons, too, Bidgoli fails to anticipate Applicant's invention.

A. Bidgoli Contains Requirements and Limitations That Are Not Part of Applicant's Invention

1. Bidgoli Includes Steps Not in Applicant's Invention

The philosophy or methodology (neither of which is identical to a method) disclosed in Bidgoli contain both at least two steps which the Applicant's invention neither requires nor includes. The principal step will be identified first and a second step, second.

The particular portion of Bidgoli cited by the Examiner in the Final Office Action as anticipatory is the tenth chapter, titled, "Total Quality Management and Information Systems Reengineering". This method is colloquially referred to as "Total Quality Management" or "TQM", and so the Examiner refers to it in the Office Action.

The very first word in the chapter title, the very first word in the short phrase, and the initial letter in the acronym 'TQM', establish the principal step which Bidgoli mandates. TQM, as described in Bidgoli, is for, and must be applied to, the totality of a business: "Total quality management is the organizational-wide focus on the continuous

improvement of quality." [Bidgoli, Ch. 10.2, p. 277, 6th para., 1st sentence]; and, "Participation by every employee in the organization is necessary in order to make the cultural change to quality [sic] in the corporation. In other words, TQM is an organization-wide effort." [Bidgoli, Chap. 10.3.2, p. 280, lines 5-7]. However anyone implements TQM, a necessary step, according to Bidgoli, is doing so for the entire organization.

But the Applicant's invention does not require that step nor incorporate that limitation. The 'Summary of Invention' negates that specifically, stating: "...because the implementation can be both incremental and from either top-down or bottom-up approaches, an organization can adapt to the new method in that fashion most suitable to its current situation." (Marked-up specification, p. 14, lines 12-14.) And the first claim serves notice that the Applicant's method, while it can be implemented by a business, does not require the entirety of the business to be involved, for it states that it is a method for managing a "process", as distinct from "quality". The word "process" was used in part to specifically differentiate Applicant's invention from Bidgoli, as well as to convey the meaning that the Applicant's method could work for a single thread of activity, and not just for the entirety of a "business" (or, as TQM requires, an "organization"). Examiner had not claimed such 'anticipation' in the First Office Action, though he mentioned Bidgoli, and it was presumed that this was in recognition of the disparity between the two.

There is no statement, no requirement, and no step in Applicant's invention to require or force the entirety of an organization to implement Applicant's invention in order to use it; there is no identity with this requirement mandated by TQM according to Bidgoli. Applicant's invention does not require implementation over the totality of a business' processes and activities, though it neither forbids nor prohibits it. This point is clarified by the specification's specific statement: "...continuous and incremental improvement at the most appropriate level of granularity of measurement and action can be devised and adapted through experience rather than having to be entirely pre-planned and specified." (Marked-up specification, p. 14, lines 9-12).

This potential for partial, or intermediate, implementations of Applicant's invention is implicit in the combination of the phrase explicitly negating pre-planning and the following sentence's explicit allowance of 'incremental' implementation; and this implicit allowance of partial rather than total implementation is even more evident when, in the same sentence, the Applicant's method is stated as feasible for a bottom-up approach.

In an alternative statement of this adaptability, the specification stated: "This is because the emergent business process is not fixedly stated in a procedural fashion, or from a pre-envisioned and designed sub-set set forth by the system designer, but instead is found from a set of all possible transaction flows through operation of a feedback-driven adaptive means." (Marked text, p. 19, lines 18-21.)

It would be entirely possible for a business to implement Applicant's invention on an experimental basis for only a portion of its business processes, possibly even (should it wish a controlled and comparative experiment) for a single shift in a factory, a single sales office, or a single team. It would be feasible for a single, subordinate, and ambitious management executive to implement Applicant's invention for his sub-sphere of operations within an organization, and gain the advantages thereof (both for his business and hopes of promotion).

Yet there is no way that any shift, office, team, or subordinate manager – anything short of the entire organization – could try to implement TQM in such a piecemeal fashion. In fact, Bidgoli teaches against a key advantage of Applicant's invention, for it specifically states: "It will take a special top management team with a plan of action to carry out the quality mission. Workers can not do it on their own, nor can managers." (Bidgoli, Ch. 10.3, p. 279, 7th paragraph, 2nd and 3rd sentence of the 14th point.)

Applicant's attorney apologizes for not specifically calling attention to this omission of the requirement for totality inherent in TQM to the Examiner earlier. Time constraints

can make it difficult to notice an omission when the Examiner's attention is on reviewing the material presented. However, this omission could not be informally rectified when the request for oral interview was denied. Admittedly it can be difficult to recognize the importance, as Sherlock Holmes pointed out, of the absence of something expected; often, it is difficult to recognize the lack of an element as an inventive step (particularly given the practical restrictions on 'negative claiming'). The mind fills in or dismisses a silence without recognizing its importance[7].

A second requirement in Bidgoli is the need to change the implementing organization when TQM is implemented. This is specifically stated: "TQM requires a change in organizational culture, a fundamental change in the way individuals and groups approach their work and their roles in the organization." (Bidgoli, Chap. 10.3.5; p. 282, last paragraph, 2nd and continuing sentences.)[8]

Applicant's invention imposes no such burden nor makes such a requirement; instead, its focus remains entirely on specifying accurately each business process as it currently exists. As the application states: "This new method is not a redesign of any existing business process; it is not a correction of the parameters of a current instantiation; it is not a re-application of hindsight with human-provided new facts or presumptions. Instead of focusing on changing the current process or current definitions and subsequently discovering the implications and consequences, this method focuses on changing the constraints and using induction to produce a better means to respond to such changes...." (Marked specification, p. 18, line 25 – p. 19, line 2.)

The result of adopting Bidgoli's TQM both requires and imposes, according to Bidgoli, a total and fundamental change in the adopting business. The result of adopting Applicant's invention will also be a change in the adopting business, but that change is not a

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[7] "Is there any point to which you would wish to draw my attention?" "To the curious incident of the dog in the night-time." "The dog did nothing in the night-time." "That was the curious incident." A.C. Doyle, Memoirs of Sherlock Holmes, *The Adventure of Silver Blaze*.

[8] Even more so is "Reengineering", a method cited by Bidgoli in Chap. 10.6, p. 294 which goes even further as it is described as being "fundamental, radical, [and] dramatic....", a description that contradicts Applicant's focus entirely. This point is only raised to obviate any claim that it has not been addressed.

prerequisite to the adoption nor necessarily either a total or a fundamental change. Applicant's invention contains none of the above limitations of TQM. For this reason alone, Bidgoli fails to anticipate.

2. Bidgoli Provides A Less-Functional Solution Than Applicant's Invention

TQM, as shown above, is a solution which must be applied to an entire business and the existing business conditions that changes fundamentally every aspect of the entire business. Applicant's invention can be applied just to the existing business conditions, but it also enables the derivation of solutions to future, changed, conditions, through incorporated anticipations. Applicant's specification states this repeatedly: "...correctly stating the goals, actions, expectations, and external circumstances as they are and as they are expected to be...." [Marked specification, p. 17, lines 12-13]; "...that anticipate possible conditions and desired actions, through an inductive mechanism give rise to the business process instance then used by the business...." [ibid, p. 17, lines 17-19]; "This method shifts management from the projection and production 'push' approach of the era of mass-production, to the demand-pull approach which is suitable for the new era of mass customization. It is anticipatory rather than projective, and thus minimizes the gaps between expectations (the model of the anticipated world) and reality. Furthermore, this method lets the real world conditions rather than projected anticipations govern the choice of actions, which allows changes to propagate on their own rather than requiring continuous and focused attention by management on how things are done and what actions are taken." [ibid, p. 18, lines 7-15.]

In short, Applicant's invention allows future, potential problems to be anticipated, and future real-world conditional responses to be delineated, from which as-yet undetermined solutions can be derived when the precise future contingency is realized, without having to pre-solve every potential problem for every potential contingency, and store all such solutions, an element completely absent from Bidgoli.

Because the Examiner seemed not to have caught this difference when citing Bidgoli in the First Office Action, the specification was amended to incorporate new material clarifying this, including, for example, the immediately following paragraphs – which Examiner refused to review, confusing "new material" with "new matter"; see discussion *infra*.

Such problems – these anticipated problems – are ones which have not yet been solved by any human expert. And for this reason, Bidgoli teaches against using an automated, expert system ("ES") implementation to resolving them: "At this point, the problems that have not been solved previously by human experts are not candidates for ES application." [Bidgoli, Chap. 17-10, p. 507, third condition, 3rd sentence.] And there is nothing in Bidgoli which anticipates any method with the capability of handling as-yet unanticipated and unsolved problems.

Additionally, broad problems can be resolved by Applicant's invention, whereas Bidgoli teaches that any implementation using an ES must be narrow: "Limited Subject Domain. Expert systems are successful if the problem under investigation is narrow." [Bidgoli, Chap. 17-10, fifth condition.]

Bidgoli fails to teach any method, including TQM, for responding when objectives do not conform to the real world. All that Bidgoli/TQM describes is a method for identifying when measurements do not conform to objectives, which is a distinctly different, and already well-known issue. In direct contrast, Applicant's declarative method allows the induction, or deduction, of new responses and new solutions from the combination of the definitions of capabilities and the model of the real world, and thereby provides the ability to respond when objectives or goals do not conform to the real world.

Unlike Bidgoli, Applicant specifically discloses the use of a declarative method, suitable for reduction to a form of formal logic, and suitable for implementation on a computer, none of which are disclosed in Bidgoli. TQM benchmarking (Bidgoli, Chap. 10.3.3, p.

280) is not disclosed as a computable art; and there is no link made between "information systems" and "benchmarking" beyond a non-enabling paragraph found on page 285.

Furthermore, Examiner appears to have confused Applicant's continuous feedback with Bidgoli's "continuous improvement" (Chap. 10.3.4, p. 281-282). At best, "continuous improvement" discloses the concept of 'modification'; it fails, however, to incorporate the potential for such alternatives as stability, differentiation, deletion, or creation described and claimed by Applicant. Bidgoli fails to indicate what the proper response under "continuous improvement" would be if a process is less-than-perfect but will cost more to fix than the improvement will ever be worth. Bidgoli completely fails to discuss (let alone mention) either closed-loop feedback or the use of any rule set system, both of which are disclosed in Applicant's invention. And, while Bidgoli and TQM teach both "eliminating defects" and "doing the job right the first time and every time" (Chap. 10.3.3, first paragraph, p. 280), Applicant's method would allow both defects and corrective processes if such proved to be (a) part of the existing business' existing processes (and no business is perfect, nor is anything not in Heaven) and (b) acceptable, in that these imperfections do not prevent the attainment of the declared objectives and goals. In short, Bidgoli and TQM are little more than an explanation of a wonderful theory, while Applicant's method is an enabling disclosure of a better means.

3. Bidgoli Fails To Disclose or Use the Same Method That Applicant Teaches

As the Examiner's First Office Action evidenced a lack of comprehension of the distinction between declaring a goal, and stating a goal in declarative form (a distinction which is known to those with a background in formal logic, including persons educated in computer science, information systems, operations research, mathematics, and other fields which a corporate officer may reasonably be expected to have at his disposal), while the second and Final Office Action did not contest Applicant's First Response on this point, Applicant has reason to believe that the Examiner has or should concede that this differentiation in methods exists between Bidgoli and Applicant's approaches.

Instead, the Examiner asserted that: (1) "Bidgoli discloses a method for **dynamically** managing a process **through an emergent and inductive approach that anticipates possible conditions and desired actions** (total quality management (TQM), see page 276-277), comprising declaring an objective of the process as a set of measurable goals and constraints (quality measurement, page 280), stating **for each objective at least one corresponding and applicable set of rules** wherein each rule..." (Second Office Action, starting at p. 5, last paragraph, to the end of p. 6); and (2) "As per claims 2 and 6, Bidgoli discloses the steps done in a declarative method suitable for reduction to a form of formal logic (repeatable and measurable, quality measurement, page 280)." (Emphasis in Examiner's text.)

Unfortunately, these assertions read a post-hoc, and flawed, interpretation into Bidgoli which is unsustainable when the latter is examined and compared against, not to, the Applicant's specification. They fail spectacularly when compared against the legal standard for "anticipation".

The standard for anticipation is the standard for novelty [Chisum, Section 3.02, p. 3-8]: "The standard for lack of novelty, that is, for "anticipation", is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all of its essential elements." Bidgoli fails to meet this standard or contain all the essential elements, despite the Examiner's conclusory assertions.

The flaw in the Examiner's second assertion will be dealt with first, as it is more easily explained. There is nothing in the text from Bidgoli that the Examiner cites that discloses "steps done in a declarative method suitable for reduction to a form of formal logic". There is no citation of any specific language to support this assertion, for the simple reason that none exists.

Even granting (solely for the purposes of demolishing this argument) that Bidgoli did mention "declaring an objective...", that is an act no more identical to "stating a goal in

declarative form" than it would be to "stating an objective in a declaration". Because the declarative form and a legal declaration both require and convey the existence of a supporting process, structure, format, and requirements — in fact, the very specific fields of human expertise, respectively that of logic and the law — elements which are not necessarily present in the action of 'declaring an objective'. The latter could describe an action by a General, a bride-to-be, or a precocious child without anyone questioning the use of those specific words to describe what had occurred. But a General declaring an objective, is hardly considered to be necessarily identical to an attorney drafting a declaration for submission to the Board or to a court, or a logician or computer scientist preparing a rigorous and provably valid statement in the declarative form.

Moreover, the Examiner's citation (Bidgoli, p. 280) at most broadly and generally discusses "Visions and Values" (Section 10.3.1), "Commitment and Participation" (Section 10.3.2), and "Quality Measurement" (Section 10.3.3). The first two sections provide nice language about what ought to be done in a business trying to instantiate TQM, but provide no detail about how to implement these ideals. The last section merely describes "benchmarking".

It was shown above that there is a very close connection between the declarative paradigm, i.e. stating and using knowledge, information and processes stated in declarative form, and induction. Not identity, but at least a close connection. But "Benchmarking" is not, never has been, and never will be understood as even remotely identical to "disclosing the steps done in a declarative method".

"Benchmarking" cannot be found in the Software Engineer's Reference Book, *infra*. Anywhere. Let alone in those portions which define and describe the declarative paradigm and method, also cited *infra*. "Benchmark" is at least partially defined in The Computer Science and Engineering Handbook, A. B. Tucker, Jr. ed., CRC Press, 1992; once on p. 1078 *ff.*, where "Database Benchmarking" is defined as "performance tests by which different database hardware/software platforms are compared in terms of price and performance", and again on p. 1906, where "Analytical benchmarking" is defined as

"The quantification of how effectively each machine in an HC [Heterogeneous Computing] suite can perform different categories of computation." A quantification of effective computation of particular hardware/software platforms is not, by any reasoning, identical, or even comparable, to the combination of facts, propositions, and inference which is at the heart of the declarative method.

Benchmarking is not, cannot be considered, nor even argued, at all susceptible to the use the Examiner wrongfully puts it to in his assertion of anticipation; he cites no support (particularly from the sole allowable reference, Bidgoli) that benchmarking is anything that "discloses the steps done in a declarative method". There is nothing in the definition of benchmarking that refers to the declarative method or paradigm cited above for the very good reason that these are neither related nor comparable, let alone identical. And as they are not identical, "benchmarking" cannot anticipate Applicant's invention.

The Examiner's first assertion of anticipation is equally flawed, though it will take a bit longer explanation to make this clear.

When describing TQM Bidgoli only mentions, without explanation and as theoretical concepts, objectives, goals, and measurement. He provides no enabling implementation. Because Bidgoli accepts, since he explicitly repeats, TQM's insistence that it is a "philosophy" , not an implementable solution. The Examiner failed to disclose how Bidgoli teaches a reader how to implement measurements and objectives and goals, let alone how to connect these to TQM.

In contrast, Applicant's specification details enabling elements of his implementation with inheritance of conditions as constraints, actions as goals, and association of objectives with rules. None of these enabling steps are present in Bidgoli. That difference in detail alone negates any assertion of anticipation, even if it is possible that a particular result can be duplicated by the use of the different methods[9].

[9] Just as many different 'barbed wire' inventions can co-exist, so can different methods for improving a business's bottom line.

Furthermore, Bidgoli is distinctly different from Applicant in the method taught and used. The only mention of the word "rule(s)" in the chapter of Bidgoli that describes TQM is on p. 295, at the beginning of Section 10.6.2; and that mention is descriptive of the effect of information systems, rather than how any information system or business operation is effected. It states solely that: "Information systems have changed a lot of the old rules in business." Yet Applicant's invention describes the implementation of rule sets, a concept that, referring as it does to a set-theoretical approach, implies a methodology Bidgoli fails to even hint at.

Examiner's assertion in his response, that Bidgoli discloses the element of "stating for each objective at least one corresponding and applicable set of rules wherein each rule...becomes satisfied....", supposedly in the section on "Continuous Improvement", is and assertion that is insupportable by the text of that section. There is no mention therein of "rules", no mention of "set of rules", no mention of "condition", "actuation", "limitation", "order of testing", or any of the elements of Applicant's method disclosed in the specification, claims, and drawings. The specific text cited by Examiner instead starts by stating: "Process improvement never stops. The process must be constantly nurtured through management involvement and employee empowerment." It then discusses "three groups of customers". And it concludes with "Top management must realize that total quality management is not an overnight cure." Read with care, there is still nothing of what Applicant discloses necessarily revealed in either the most overt, or in any sensible, interpretation of that cited text.

Bidgoli does contain, in Chapter 17, a basic description of Expert Systems. That portion of the text discusses a rule-based, computerized method by which some business problems can be addressed. However, the only connection between Chapters 10 and 17 is found on page 301-302, section 10.8 (in Chapter 10), discussing "Synergy Between TQM and Information Systems". That subtitle makes it clear that Bidgoli is teaching that these

two are separate and only partially interact; they are inherently not identical[10]. Bidgoli is explicit about the separation between TQM and Information Systems, though he acknowledges there is an inherent interdependence when he states in the Summary to Chapter 10, "It would be very difficult to implement a successful TQM or business process reengineering program without having a comprehensive information system in place." In stating so, Bidgoli recognizes that TQM, as it has been tried in the real world, is a massive, organization-wide adaptation, and further that TQM in reality is the antithesis of dynamic. Why? As cited above, implementing TQM requires doing so for the entire organization and involving every employee in the process. Unlike Applicant's invention, TQM, according to Bidgoli, is an all or nothing affair.

Applicant's specification and claims, which describe both a pure business method and a computer-based implementation thereof, make it clear that the computer-based implementation is merely one of number of means of implementing the pure business method. Applicant's specification and claims do not talk about synergy, but about an implementation, enabling, or realization. There is no separation, explicit or inherent, between the method and the implementation.

Furthermore, the only specific mention of any linkage between TQM and a computer implementation in Bidgoli is the broad reference to "Artificial Intelligence (discussed in Chapter 17)" (Section 10-8,.page 301, 1st full paragraph). But this same sentence goes on to makes it clear that Bidgoli teaches that any such linkage is only "being used" for three specific and exceedingly limited "business" operations: deciding "what parts to ship", making judgments "about basic issues associated with billing", and "to pay bills"[11].

When this citation is followed to Chapter 17, all that Bidgoli discloses (on p. 505-506) is the use of an ES for specific business tasks or activities. This is not identical to business process management. Applicant's teaching, in contrast, addresses the management of

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[10] "Synergy" is defined (Am. Her.) as: "1. Biology. The action of two or more substances, organs, or organisms to achieve an effect of which each is individually incapable."

[11] And once again, note that Bidgoli presumes that no implementation can be both successful and less than total, through the use of the word "comprehensive".

'business processes'. But "business processes" are collections of activities and tasks, rather than specific activities or tasks, under Bidgoli's definition (found on page 294 when discussing "Reengineering"). If Bidgoli differentiates between "business tasks" and "business processes", the Examiner cannot blatantly ignore this differentiation and assert identity of these two with what is, in fact, a very different use of the same language by Applicant when read in context.

When Chapter 17 is examined in detail, no mention or teaching by Bidgoli can be found of a self-adapting method with internal feedback meant to reduce and whenever possible eliminate active, personal, human management of one, several, many, or all of an organization's business processes, identical (or even remotely analogous) to that which Applicant discloses. Instead, Bidgoli requires external intervention from human management for TQM, since he states that Expert Systems "...can be adapted, as new knowledge becomes available, by changing the rules within the knowledge base". The passive tense is telling; the Expert System does not adapt itself. Nor does it contain any proactive, anticipatory potential; it must be adapted rather than 'adapting'.[12]. A rather more emphatic insistence follows: "In example-based systems, the examples in the knowledge base cannot be altered. The evaluation criteria used to determine if there is a match can be altered but the actual example cannot." There is nothing in Bidgoli that allows adaptation to imperfection, let alone teaches how to implement such a step.

Furthermore, without any glimmer of self-adapting method discernible from Bidgoli, there is also nothing in the cited text, or elsewhere in Bidgoli, which addresses "dynamically managing a process". Applicant provides motivation to use his technology, and an enabling description for those skilled in the arts; rather than an theoretical overview, which is all, even by the widest extension of the text, that Bidgoli provides.

Another significant absence in Bidgoli is the lack of any mention of the potential presence, let alone the potential solution taught by Applicant, to the problem posed by a

[12] The passivity of the Expert System implementation is again emphasized in the example in the very next paragraph, which uses "if...were adapted" and "would that not affect" constructions, rather than "as...adapts" and "will be affected".

contradiction within the implementation. According to Bidgoli, if the method being used is an example-based system, the problem of a contradiction in the example set is irremediable. Bidgoli further teaches that no Expert System implementation is feasible, as unsuitability of such is guaranteed for: "Problem areas in which there is disagreement among the experts." [Bidgoli, Chapter 17, section 17-10, p. 508, fifth heading.]

Applicant's method, greatly to the contrary, specifically addresses both the possibility of encountering a contradiction and an implementation of a solution thereto. See Figures 4 and 5; Applicant's Specification, p. 13, lines 24-27: "By further allowing the modification, deletion, and creation of new rules, and new rule sets, to meet or correct for...newly-encountered internal contradictions..." and p. 16, lines 10-12: "The fifth step (19), is internalizing feedback by monitoring performance and the real world against the previously specified Goals, with specific handling of contradictions by internal modification until they are resolved."

Bidgoli also fails to include any means for delegation, teaching instead "universal responsibility" [Bidgoli, Chap. 10, Section 10.3, page 285, 2nd full paragraph]. TQM, according to Bidgoli, provides nothing from which one can evoke, in which one can discover, or from which one can infer, even the concept of delegation. Applicant, in direct contrast, teaches both the concept and means of implementing delegation, both explicitly and inherently through 'inheritance' (implementation thereof being within the capability of the average practitioner familiar with both the declarative paradigm and business operations).

Finally, Bidgoli never discloses any method for internally-contained and driven adaptation. There is neither mention nor consideration of inductive creation, dynamically on the fly or in stepwise fashion, of any business process; while Applicant emphatically addresses not just this, but the techniques of doing so from a set, or sets, of defined conditions, rules, goals, constraints, inheritance, and feedback. (See, in particular, Claim 13; see also, specification, page 27, and the new material in lines 14-19.) Likewise, there is neither mention of nor consideration of self-referential representation or self-

modification, of either the model or the business processes, both of which are inherent as a feature of 'feedback' as described by Applicant. The lack of a single element is enough to negate anticipation, as held by United States Filter Corp. v. Ionics Inc., 68 F.Supp.2d 48, 54, 53 U.S.P.Q.2d 1071, 1077 (Fed. Cir. 1999): "if a prior art reference lacks any claimed element, then as a matter of law a decision maker (whether in the patent office or in a court) cannot find anticipation."

For all of the above reasons, Bidgoli fails to anticipate.

B. A Potential Similarity In Results Conceals Polar Differences

To implement TQM, a business must specify what its goals are, which means that before it can identify what it will do, it must state what problem it is attempting to solve. The first step therefore is a constraining one; a business considering TQM must come up with a constraint on the overall "solutions space" it can address. No matter how inventive the refinements and interpretations thereafter offered by the owners, managers, or workers, the business can do no more than it has set itself out to do. All that TQM thereafter enables is the search of the initially defined solutions space for the (current) optimum performance. No matter how large the initial limits, there is no way that a business using a TQM approach can think outside of the "box" which the initial step creates. External events cannot change the initially-specified goals, even if those events make the attainment of those goals impossible. (E.g. a passenger-cruise corporation, which possesses fifteen liners and uses TQM to set itself a goal of seven profitable trips per quarter per liner, would be devastated should a war or terrorist incident eliminate all passenger cruises. There is no 'defect' for the TQM to address, but instead a now-invalidated assumption to which TQM has no means to respond.)

Applicant's invention, however, begins from another direction. Instead of initially defining the limits on what the business shall do, this method determines what the business (or any subordinate part currently implementing or having implemented the

Applicant's method) can do. It builds a solution space dynamically, a solution space that constantly evolves and changes, a solution space that is a statement of what the business can do at that particular point in time. Like a kaleidoscope, the solution space (and thereby the business) may change with the addition of any new piece, the operation of any particular unit, or the influence of external events. (In responding to the same hypothetical, Applicant's method, having stated an objective of keeping per-liner operating costs below per-liner income, with the latter more specifically incorporating both room-night paying occupancy rentals and third-party advertising and placement fees, could induce a new use of the liners as being rented out for short, intermediate, or long-term housing alternatives with constrainable access and pre-provided infrastructure, possibly even creating the goal of arranging for a third of becoming shore-linked luxury apartments for specific named resorts. Without requiring the senior management to come up with and then implement a new TQM-style "vision". Because Applicant's invention focuses on what the business can do, rather than on what it is supposed to do.) As the specification states: "This method provides for the most direct (in terms of applicability at the appropriate information/decision context) and effective (in terms of modifying the method and operations of the business entity as a whole) means for managing that business's operations, bringing into the closest congruence past plans, present objectives, constraints, actions, and responses, and future goals. Implementation of the decision-making and feedback systems is not imposed by any internal teleological imperative but by the external constraints triggering automatically the responses deemed most appropriate." (P. 21, lines 5-12.)

This difference in approach destroys any claim of anticipation, under the holding of *In re* Bond, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990): " 'For a prior art reference to anticipate in terms of 35 U.S.C. §102, every element of the claimed invention must be identically shown in a single reference'...These elements must be arranged as in the claim under review...." And so Bidgoli fails to anticipate Applicant's invention for this second reason.

C. Bidgoli Teaches Against Applicant's Invention, Defeating Identity and Inherency

When examined, Bidgoli fails to disclose a method equivalent to Applicant's invention. Instead, as cited by the Examiner, it discloses what it states specifically is "a philosophy". [Bidgoli, Chap. 10, p. 277, 4th paragraph, first sentence: "Total quality management is the American-coined phrase to describe the philosophy used by Japanese corporations"; p. 278, the second of 14 points, listed in the 8th paragraph; p. 282, 4th paragraph: "The planning and implementation of TQM should contain measures for overcoming resistance to...the new philosophy."]

The minor requirement required by the philosophy (TQM) disclosed by Bidgoli is not only absent in Applicant's invention, but actually teaches against key elements of the method disclosed therein. TQM necessitates that the subordinate processes be static: "Processes must be stable, repeatable, visible, and measurable." (Bidgoli, Ch. 10, p. 280, 4th paragraph, 2d line.) Whereas Applicant's invention specifically states that it "allows changes to propagate on their own rather than requiring continuous and focused attention by management on how things are done and what actions are taken". Applicant's invention specifically claims that the method, and its subordinate elements, are dynamic; that is, that they are continuously subject to change in response to the conditions, which conditions include both external constraints and feedback about current activities.

The Examiner's failure to establish identity between Bidgoli's TQM and Applicant's "Declarative Method" requires rescission of this decision, in accordance with *Ex Parte* Levy, 17 USQP2d 1461, 1462 (Bd. Pat. App & Int'f 1990): "It is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference."

For the above reasons and facts, Bidgoli fails to anticipate Applicant's invention.

IV. Examiner's Other Grounds For Rejection Are Neither Supported Nor Justifiable

A. The Examiner objected to claims 2 and 6, asserting that Bidgoli "discloses the steps done in a declarative method suitable for reduction to a form of formal logic". But all that Bidgoli states in the text cited by Examiner is that "Processes must be stable, repeatable, visible, and measurable."

In order to support a claim of "anticipation", these two statements must be identical. "Anticipation requires identity of the claimed process and a process of the prior art; the claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference." Glaverbel Societe Anonyme v. Northlake Marketing & Supply Inc., 33 U.S.P.Q.2d 1497, 1498.

Formal logic is indeed stable, repeatable, visible, and measurable. But so too is a cookbook recipe, directions for moving from one (definite) place to another, or even a legal citation to the F.R.C.P.[13] But none of these are "identical" to "Processes". The possession of similar attributes does not constitute identity, or all humans would be (logically) both dead and alive, male and female, young and old. The other factors make a difference!

Bidgoli's own text never describes a "business process" as something that is either "steps done in a declarative method" or something "suitable for reduction to a form of formal logic". No, it is defined as "a collection of activities and tasks that take one or more types of inputs and creates an output that is of value to the customers" [Bidgoli, Chap. 10-6, p. 294, last paragraph of that section.]

The Examiner has failed to provide any argument, reasoning, definition, or factual ground for his conclusion that Bidgoli and Applicant's invention are identical. Accordingly, his determination is unsupportable. The textual difference prevents any assertion of direct identity. And there is no submission showing that the identity of the

[13] Or to the CFR or MPEP, for that matter.

two is a foregone, necessary conclusion. *Ex parte* Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990) held:

> "In relying on the doctrine of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." (Emphasis in original.)

In re Robertson, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1991) further clarified this element of necessarily flowing from the anticipating art to the subsequent invention to establish inherent identity:

> "If the prior art reference does not expressly set forth a particular element of the claim, that reference may still anticipate if that element is 'inherent' in its disclosure....'Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' "

What establishes 'inherency' is stated in Levi Strauss & Co. v. Golden Trade, S.r.L., 1995 WL 710822*17 (S.D.N.Y. 1995):

> "An element is inherently present when it is not specifically found in the prior device but is always present or flows naturally from what is taught there."

Any claim to inherency by the Examiner must fail, for the reasons shown above and repeated here: (1) Bidgoli teaches against anything less than total implementation, while Applicant explicitly teaches such; (2) Bidgoli fails to mention, and cannot handle, contradictions, while Applicant uses them; (3) Bidgoli expressly teaches against elements of Applicant's invention; and (4) Bidgoli seeks stability, while Applicant allows permutation and self-modification.

This latter point is particularly telling, for it obviates one of the four requirements cited in Bidgoli: that a process be "stable". The Applicant's invention allows a process to be

modified, i.e. to change, which is the antithesis of stability. For these reasons, his rejection of this claim must fail.

B. The rejection of claims 3-4 fail for the same reason that the rejection of claim 1 fails.

C. The rejection of claim 5 fails, because the Examiner mistakes and mis-cites Bidgoli. The Examiner's reference to "continuous feedback" is "continuous improvement" in Bidgoli. The former is differentiable from the latter by the fact that feedback may maintain a state against external changes. This particular difference was explicitly stated by Applicant: "The method embodied in this invention is meant to apply to dynamic processes, i.e. processes that change the real world, including those changes which hold steady what otherwise would have changed." (P. 17, lines 21-24.) Compare that to the first sentence of the text referenced by Examiner: "Process improvement never stops." [Bidgoli, Ch. 10-3-4, p. 281, 1st para.]

Another difference is made evident in the very next sentence, where Bidgoli states: "The process must be constantly nurtured through management involvement and employee empowerment." [*Ibid.*] This flatly contradicts Applicant's invention, as it: "allows changes to propagate on their own rather than requiring continuous and focused attention by management on how things are done and what actions are taken." (Marked specification, p. 18, lines 13-15)

Bidgoli then contradicts the "continuous improvement" assertion with the third sentence of this section: "TQM recognizes that quality cannot be added to a product or service after its completion but must be designed into the work process from the beginning." In contrast, Applicant's method truly implements "continuous improvement", by letting flaws become the source of solutions, as was stated at p. 26, lines 9-13: "One advantage of this method is that, unlike a hierarchical approach where a contradiction becomes an irrecoverable catastrophe, in this method a contradiction without sufficient differentiation can be rapidly identified and becomes the opportunity to correct, redefine, and re-partition the rule sets so as to remove a flaw in the business's operational flow."

Nowhere in the text section 10-3-4 cited by Examiner is there any mention of "internalizing feedback for both performance and process" (Claim 5), "incorporating into the method steps for creating, differentiating, modifying, and deleting", or "any constraint" or any "set of rules". Those last two elements exist nowhere in Bidgoli; and no identity has been or can be specified by the Examiner. Accordingly, no anticipation is shown, again, , and his rejection of this claim must fail.

D. The rejection of claims 7-8 fail for the same reason that the rejection of claim 5 fails.

E. The rejection of claim 9 fails, for the same reason that the rejection of claim 1 or claim 5 fails.

F. The Examiner asserted, in rejecting claim 10, that Bidgoli "discloses using the occurrence of a logical contradiction created or encountered by the method to improve the method..." in the text on page 506. This assertion is unsupported by the actual text. Bidgoli makes no mention of an explicit contradiction, and such are *verboten* in expert systems, as the Software Engineers' Reference Book, *supra*, states at p. 38/3, 2d column: "Any such contradictions must be ironed out satisfactorily before automatic reasoning can be performed." All Bidgoli discloses is that "Rule-based expert systems can be adapted, as new knowledge becomes available, by changing the rules within the knowledge base. In example-based systems, the examples in the knowledge base cannot be altered."

Next, Bidgoli makes no mention of "using the steps for creating, differentiating, modifying, and deleting..." to produce a new method, as Applicant discloses in this claim and Figures 4 and 5. Additionally, Bidgoli makes no mention of either "constraint" or "set of rules", both elements of this claim.

There is no external evidence cited by Examiner for his assertion, and in the absence of such, his conclusory effort to assert identity of disclosure, and his rejection of this claim,

must fail. Glaverbel Societe Anonyme v. Northlake Marketing & Supply Inc. and *Ex parte* Levy, *supra.*

G. The Examiner's equating of Bidgoli's "universal responsibility" [Bidgoli, p. 284] with Applicant's claim 11 fails to produce a scintilla of evidence or reasoning that the former contains any of the specific elements of the latter, particularly: (a) delegating the "objective", "corresponding means", and "responsibility" ..."to at least one specific actor"; or (b) that specific actor inheriting "conditions as constraints" and "actions as goals"; or (c) that specific actor passing upwards "actions as instantiations of conditions". All that Bidgoli states here is a general theory: "The responsibility for quality is not restricted to a few people in the organization, but includes everyone in the organization." There is no identity of elements and not even the pretense of equivalence for Examiner's statement, and as such no anticipation can exist, and his rejection of this claim must fail.

H. The rejection of claim 12 fails, for the same reason that the rejection of claim 9 fails.

I. The rejection of claim 13 fails, for the same reason that the rejection of claim 9 does. Additionally, Bidgoli does not disclose (at the page cited by the Examiner, or elsewhere, any of the following elements of claim 13: (a) inducing a business process from a set of defined conditions, rules, and elements comprising a model of the real world; (b) stating...at least one set of rules; (c) testing each rule against conditions both internal and external to said business process; (d) delegating; or any of the specifics of constraints, inheriting, and "creating, differentiating, modifying, and deleting, any objective, goal constraint, set of rules, or rule, to produce a distinct new method lacking any logical contradiction."

All that Bidgoli does at this citation is define what he means as a business process: "A business process is a collection of activities and tasks that take one or more types of inputs and creates an output that is of value to customers." Given that the specification begins with the citation to the declarative method and paradigm, there is a great deal of difference between a "collection" (which lacks any mathematical or logical definition)

and a "set" (which has very distinct mathematical and logical definitions). The former is equated with "levy, gathering, mobilization (ASSEMBLAGE)", while the latter is equated with "group, series, pack (ASSEMBLAGE)" (Roget's Thesaurus, *supra.*). While the two can be linked, they are not necessarily or even probabilistically so connected; and that means the Examiner cannot establish identity or even inherency, and thus anticipation, and his rejection of this claim, must fail.

J. The rejection of claim 14 fails as the Examiner has not and cannot show that Bidgoli discloses either a "dynamic" or a "self-referential" "representation of the induced business process within the model", at the citation or elsewhere. (Also, the lack of identity of 'induced', shown above, negates his assertion.) That citation merely asserts that TQM "can be successfully applied to information systems" — but without any enabling disclosure of how such may be done. Furthermore, Bidgoli requires "A minimum set of stable and repeatable processes", which also must be "stable, repeatable, visible, and measurable, and the standard must be "no defects". " In contrast, the Applicant allows for self-modification, dynamic and thus non-stable processes, and imposes no condition of 'no defects'; instead, defects are presumed and used to create improvements by Applicant. Therefore, Examiner has not and cannot establish identity and thus anticipation, and his rejection of this claim must fail.

K. The rejection of claim 15 fails, as there is no mention in Bidgoli of any "anticipatory" element, particularly any that is "neither based on any history, trend, or deductive reasoning approach, nor supported by any particular reason to believe it will occur". Therefore, Examiner has not and cannot establish identity and thus anticipation, and his rejection of this claim must fail.

Conclusion

The Examiner's difficulty with this application may lie in part with the difficulty of comprehending a new approach, particularly one based on a reasoning paradigm (the declarative method) which is at present chiefly limited to a small sub-class of computer

scientists, database specialists, and formal logicians. This reasoning approach does not require computer implementation, though for large-scale, complex, or detail-intensive operations such assistance may make the difference between desire and attainment.

This error by Examiner, and the refusal to allow an interview to discuss the same, raises a serious question as to whether a bias has been evidenced against Applicant, such that substitution of a different Examiner should be made. Furthermore, as both the Final Response and the refusal of a post-response interview were reviewed by the Examiner's supervising Examiner without change, the same question arises as to that supervising Examiner. Inasmuch as both refused to consider or address the Applicant's revisions (revisions, specifically intended to meet the objections and issues raised by the Examiner in the First Office Action), and thereby left this prosecution in a less-than settled state from which a proper Appeal could be taken, the impression of bias, of responding to an internal political dictate disfavoring business method patent applications, or an interest in garnering further application processing fees, was generated.

However, it is hoped that this response will meet the concerns, address the limitations or misapprehensions, and identify the specific grounds for determination of the Applicant's right to continued prosecution, without necessitating such a change. If the Examiner has any questions concerning this case, please direct the inquiry to George S. Cole at (650) 556-9510 or GSCdLawyer@aol.com.

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GSC/ms